We claim:

~~1. An active matrix liquid crystal display device comprising a liquid crystal cell, a switching element arranged in matrix, and shading layers mounted both on the upper side and the lower side of said switching element; wherein~~

~~at least one of the upper and lower shading layers includes a sloped portion and has a convex shape protruding toward said switching element.~~

2. An active matrix liquid crystal display device comprising a liquid crystal cell, a switching element arranged in matrix, and shading layers mounted both on the upper side and the lower side of said switching element; the upper shading layer including an upper sloped portion and having a convex shape protruding toward said switching element, the lower shading layer having a flat shape: wherein

said upper shading layer is formed so that said upper sloped portion is located at a θ_1 angle to the horizontal direction, and said upper sloped portion has a horizontal direction length of l_{11}; said lower shading layer is formed so that the length from the end of said lower shading layer to the point that the line drawn downward to the vertical direction from the origin of said upper sloped portion crosses said lower shading layer is l_{12}; and the maximum incident angle of the light traveling obliquely from the upper shading layer side is α_1, the maximum incident angle of the light traveling obliquely from the lower

shading layer side is β_1, and the distance between the upper shading layer and the lower shading layer is d_1;

in which θ_1, l_{11} and l_{12} each fulfill

$\theta_1 > \beta_1$,

$l_{11} > (l_{12}+d_1 \cdot \tan\alpha_1)/(1-\tan\theta_1 \cdot \tan\alpha_1)$, and

$l_{12} > d_1 \cdot \tan\beta_1$.

3. An active matrix liquid crystal display device comprising a liquid crystal cell, a switching element arranged in matrix, and shading layers mounted both on the upper side and the lower side of said switching element; the lower shading layer including a lower sloped portion and having a convex shape protruding toward said switching element, the upper shading layer having a flat shape: wherein

said lower shading layer is formed so that said lower sloped portion is located at a θ_2 angle to the horizontal direction, and said lower sloped portion has a horizontal direction length of l_{21}; said upper shading layer is formed so that the length from the end of said upper shading layer to the point that the line drawn upward to the vertical direction from the origin of said lower sloped portion crosses said upper shading layer is l_{22}; and the maximum incident angle of the light traveling obliquely from the lower shading layer side is α_2, the maximum incident angle of the light traveling obliquely from the upper shading layer side is β_2, and the distance between the upper shading layer and the lower shading layer is d_2;

in which θ_2, l_{21} and l_{22} each fulfill

$\theta_2 > \beta_2$,

$l_{21} > (l_{22}+d_2 \cdot \tan\alpha_2)/(1-\tan\theta_2 \cdot \tan\alpha_2)$, and

$l_{22} > d_2 \cdot \tan\beta_2$.

4. An active matrix liquid crystal display device comprising a liquid crystal cell, a switching element arranged in matrix, and shading layers mounted both on the upper side and the lower side of said switching element; the upper and lower shading layers respectively including an upper sloped portion or a lower sloped portion, both having a convex shape protruding toward said switching element, and said lower sloped portion formed longer than said upper sloped portion: wherein

said upper shading layer is formed so that said upper sloped portion is located at a θ_{31} angle to the horizontal direction, and said upper sloped portion has a horizontal direction length of l_{31}; said lower shading layer is formed so that said lower sloped portion is located at a θ_{32} angle to the horizontal direction, and said lower sloped portion has a horizontal direction length of l_{32}; and the maximum incident angle of the light traveling obliquely from the upper shading layer side is α_3, the maximum incident angle of the light traveling obliquely from the lower shading layer side is β_3, and the distance between the upper shading layer and the lower shading layer is d_3; in which θ_{31}, θ_{32}, l_{31} and l_{32} each fulfill

$\theta_{31} > \beta_3$,

$\theta_{32} > \alpha_3$,

$l_{31} > \tan\beta_3 \cdot (d_3 + l_{32} \cdot \tan\theta_{32})$, and

$l_{32} > \tan\alpha_3 \cdot (d_3 + l_{31} \cdot \tan\theta_{31})$.

5. An active matrix liquid crystal display device comprising a liquid crystal cell, a switching element arranged in matrix, and shading layers mounted both on the upper side and the lower side of said switching element; the upper and lower shading layers respectively including an upper sloped portion or a lower sloped portion, both having a convex shape protruding toward said switching element, and said upper sloped portion formed longer than said lower sloped portion: wherein

said lower shading layer is formed so that said lower sloped portion is located at a θ_{41} angle to the horizontal direction, and said lower sloped portion has a horizontal direction length of l_{41}; said upper shading layer is formed so that said upper sloped portion is located at a θ_{42} angle to the horizontal direction, and said upper sloped portion has a horizontal direction length of l_{42}; and the maximum incident angle of the light traveling obliquely from the lower shading layer side is α_4, the maximum incident angle of the light traveling obliquely from the upper shading layer side is β_4, and the distance between the lower shading layer and the upper shading layer is d_4; in which θ_{41}, θ_{42}, l_{41} and l_{42} each fulfill

$\theta_{41} > \beta_4$,

$\theta_{42} > \alpha_4$,

$l_{41} > \tan\beta_4 \cdot (d_4 + l_{42} \cdot \tan\theta_{42})$, and

$l_{42} > \tan\alpha_4 \cdot (d_4 + l_{41} \cdot \tan\theta_{41})$.

6. The liquid crystal display device according to any one of claims 1 through 5, wherein

said upper shading layer and said lower shading layer are each formed of one of the following: a metal film (Al, Ta, Ti, W, Mo, Cr, Ni), a single layered film made of polysilicon and the like, AlSi, $MoSi_2$, $TaSi_2$, $TiSi_2$, WSi_2, $CoSi_2$, $NiSi_2$, PtSi, Pd_2S, HfN, ZrN, TiN, TaN, NbN, TiC, TaC or TiB_2, or of a structure formed by laminating said films.

7. The liquid crystal display device according to any one of claims 1 through 5, wherein

either said upper shading layer or said lower shading layer or both said upper and lower shading layers is or are also used for wiring.

8. A method for manufacturing the liquid crystal display device according to any one of claims 1 through 5, wherein

the layer underneath either the upper shading layer or the lower shading layer is formed using SiO_2, which is isotopically etched through HF using a resist mask, and removed of said mask before either the upper shading layer or the lower shading layer is formed thereon. P.P

9. A method for manufacturing the liquid crystal display device according to any one of claims 1 through 5, wherein the layer underneath either the upper shading layer or the lower shading layer is formed using SiO_2, which is isotopically dry-etched using a resist mask, and removed of said mask before either the upper shading layer or the lower shading layer is formed thereon.

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